Electronic Version
Stylesheet Version v1.1.1

Claims

[c1] What is claimed is:

1. A method of determining an optimal control profile for adjusting tray-in/out speeds of a tray in an optical disk drive, comprising:

driving the tray for movement with an initial control profile;

measuring a plurality of tray speeds of the tray when achieving a plurality of predetermined points in the initial control profile;

determining a plurality of comparison values according to the plurality of tray speeds and a plurality of predetermined tray speeds; and

determining an optimal control profile according to the comparison values.

[c2] 2. The method of claim 1, wherein the optical disk drive divides tray movement distance of the tray into a plurality of segments with the predetermined points; the optical disk drive further comprising a plurality of sensors operative to measure the speed of the tray corresponding to the predetermined points.

[c3] 3. The method of claim 2, wherein tray speeds are calcu-

lated according to lengths of the segments and durations of the tray passing through the segments.

[c4] 4. The method of claim 1, wherein the comparison values are determined according to differences between the tray speed and the predetermined tray speed.

[c5] 5. The method of claim 1, wherein the optimal control profile is determined by selecting one from a plurality of preset control profiles.

[c6] 6. The method of claim 1, wherein the movement of the tray is tray-in.

[c7] 7. The method of claim 1, wherein the movement of the tray is tray-out.

[c8] 8. The method of claim 1, wherein the method is started with an applied software.

[c9] 9. A method of determining an optimal control profile for adjusting tray-in/out speeds of a tray in an optical disk drive, comprising:
setting a plurality of control profile sets;
driving the tray for movement according to an initial control profile which is one of the control profile sets for deriving a tray speed function; and
selecting an optimal control profile from the control pro-

file sets according to the tray speed function.

[c10] 10. The method of claim 9, wherein the movement of the tray is tray-in.

[c11] 11. The method of claim 9, wherein the movement of the tray is tray-out.

[c12] 12. The method of claim 9, wherein the method is started with an applied software.

[c13] 13. The method of claim 9, wherein the method is capable of being stopped by a user for selecting the optimal control profile from the control profile sets according to individual preference.

[c14] 14. A method of determining an optimal control profile for adjusting opening/closing speeds of a cover in an optical disk drive, comprising:
setting a plurality of control profile sets;
driving the cover for movement according to an initial control profile which is one of the control profile sets for deriving an cover speed function; and
selecting an optimal control profile from the control profile sets according to the cover speed function.

[c15] 15. The method of claim 14, wherein the movement of the cover is cover-open.

[c16] 16. The method of claim 14, wherein the movement of the cover is cover-close.

[c17] 17. The method of claim 14, wherein the method is started with an applied software.

[c18] 18. The method of claim 14, wherein the method is capable of being stopped by a user for selecting the optimal control profile from the control profile sets according to individual preference.